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BOTANICAL GAZETTE.

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Fendler's Ferns of Trinidad.—Mr. August Fendler, the veteran collector, as has been seen from a letter of his published in the Gazette for July, has been for a year or two in Trinidad, where he is making a very full and fine collection of Ferns. Sets of about 78 species have been received, and are now for sale at the Herbarium of Harvard University. The specimens are ample, and are very carefully prepared. The following is a list of the species now distributed. The omitted numbers will be supplied in later distributions.—D. C. Eaton.

1. *Adiantum Kaulfussii*, Kze.—*A. platyphyllum*, Swz., ex Keyserling.

2. 2a. *Adiantum intermedium*, Swartz.

3. Near *Adiantum tetraphyllum*, Willd., but has acuminate pinnules, a character admitted by Hooker as belonging to this species.

4. *Adiantum pulverulentum*, L. (In some sets No. 4 has fruit on the end of the pinnule, and thus recedes from the type of this species.)

5. *Adiantum lucidum*, Swartz.

6. *Adiantum villosum*, L.

7. *Cheilanthes radiata*, R. Br.

8. *Polypodium aureum*, L.

9. *Hemionitis palmata*, L.

10. *Gymnogramme calomelanos*, Kaulf.

11. *Blechnum occidentale*, L.

13. *Asplenium Shepherdi*, Sprengel.

14. *Asplenium grandifolium*, Swz.

15. *Aspidium macrophyllum*, Swz.

16. *Aspidium subquinquefidum*, Beauvois.—*A. funestum*, Kunze, Grisebach.

17. *Aspidum molle*, Swartz.

18. *Aspidium patens*, Swartz.

19. *Aspidium amplum*, Mettenius.

20. *Phegopteris crenata*, Mettenius.

21. *Aspidium megalodus*, Mettenius.

22. *Aspidium*. nearest *A. conterminum*, Willd., but resinous-punctate, and the indusium apparently suppressed.

23. *Phegopteris draconoptera*.—*Aspid. draconopterum*, Eaton, Fil. Fendl. and Wright. p. 211.

24. *Lindsæa trapeziformis*, Dryander.

25. *Hemitelia grandifolia*, Sprengel.

26. *Trichomanes pinnatum*, Hedw.

27. *Lygodium venustum*, Swartz.

28. *Danæa elliptica*, Smith. The distinctions between this and *D. nodosa* are by no means clear. Mr. Charles Wright, who had good opportunities for observing both in Cuba, considered them forms of but one species.

29. *Selaginella serpens*, Spring.

30. *Aneimia Phyllitidis*, Swartz.

31. *Lygodium volubile*, Swartz.

32. *Alsophila nitens*, J. Smith. Distinct from *A. armata*, Br., which is repre-

sented by Mr. Wright's 950 and 1062, the former being also Hooker's *Hemitelia celolepis.*

33. *Blechnum longifolium*, H. B. K.
34. *Aspidium semicordatum*, Swartz.
35. *Asplenium lunulatum*, Swartz.
36. *Adiantum macrophyllum*, Swartz.
37. *Polypodium incanum*, Swartz.
40. *Gleichenia pubescens*, H. B. K.
41. *Aspidium trifoliatum*, Swartz.
42. *Selaginella patula*, Spring.
45. *Aspidium effusum*, Grisebach.
46. *Asplenium auritum*, Swartz.
47. *Asplenium crenulatum*, Baker.—*A. striatum*, Grisebach.
48. *Adiantum obtusum*, Desv.
51 *Gleichenia pectinata*, Presl.
52. *Polypodium neriifolium*, Schkuhr.
53. *Pteris pungens*, Willdenow.
54. *Aspidium.* Perhaps this is the *Nephrodium deflexum*, J. Smith, referred to in Syn. Fil., p. 292.
55. *Nephrolepis acuta*, Presl.
57. *Meniscium reticulatum*, Swz. Some of the specimens might pass for *M. serratum*, which is scarcely distinct.
58. *Polypodium elongatum*, Swartz.—*Gymnogramme elongatum*, Hooker.
60. *Alsophila ferox*, Presl.
61. *Asplenium cultrifolium*, Linn.
62. *Aneimia Breuteliana*, Presl.—*A. mandiocana*, Grisebach, not of Raddi.
63. *Acrostichum alienum*, Swz., var. *Purdiæi*, Grisebach.
66. *Polypodium sororium*, H. B. K.
68. *Polypodium vacciniifolium*, L. f.
69. *Acrostichum (Polybotrya) osmundaceum*, Hooker.
70. *Nephrolepis exaltata*, Presl.
71. *Adiantum polyphyllum*, Willd.
73. *Polypodium (Phymatodes) nematorhizon*, sp. nov.; caudice pertenui scandente, paleis ovatis ornato, frondibus (semipedalibus pollicem fere latis) consimilibus sub-sessilibus tenui-chartaceis lanceolatis acuminatis minute fusco-punctatis, subtus ad costam parcepaleaceis; venulis conspicuis reticulatis; areolis paracostalibus vacuis nisi venula inflexa libera signatis; areolis seriei secundæ soriferis, tertiæ minoribus sterilibus; soris rotundis a costa remotis venulas singulas vel binas coronantibus.—

This species comes between *P. Swartzii* and *P. lycopodioides.* It has the slender rhizome and the thin texture of the first, (but the chaff of the rhizome is broader and shorter,) and the fronds of the second. The venation varies a good deal even in the same frond. The paracostal areoles are broad, and often have a free veinlet running in from the outer margin of the areole. The sori are borne on either single veinlets or on a pair of veinlets, as in *Phlebodium;* and sometimes the paracostal areole opens into the fruiting areole outside of it, in which case the fertile venule bears a short branch or two below the sorus. A single sterile frond differs very little from the fertile fronds.

74. *Davallia inæqualis*, Kunze.
75. *Blechnum volubile*, Kaulf.
76. *Trichomanes sinuosum*, Richard.
77. *Pteris aquilina*, L., var. *esculenta*, Hooker and Baker.
78. *Adiantum tenerum*, Swartz.

79. *Oleandra nodosa*, Presl.
80. *Cyathea:*—not identified, and possibly new.
81. *Polypodium serrulatum*, Mettenius.
84. *Dicksonia cicutaria*, Swartz.
86. *Hymenophyllum ciliatum*, Swartz.
89. *Lindsæa stricta*, Dryander.
93. *Acrostichum flaccidum*, Fee.
95. *Davallia Saccoloma*, Sprengel.
98. *Phegopteris flavo-punctata*, Fee.
108. *Selaginella*. (not recognized.)
110. *Lindsæa trapeziformis*, Dryander, var. *falcata*, Baker.
114. *Oleandra neriiformis*, Cav.

LEAVES OF DARLINGTONIA CALIFORNICA AND THEIR TWO SECRETIONS.—Through the kindness of Dr. Gray we are permitted to publish the following interesting communication from Mrs. R. M. Austin, of Pratteville, Plumas Co., Cal.

"Found the sweet secretion, or lure, on all the new leaves of Darlingtonia having the orifices of the hoods open, and captured insects in the liquid at the bottom of the tubes. The sweet secretion was confined to the inner and rough portion of the hoods, the rim or fold around the orifices, and on the outside of the hoods, corresponding in extent to the rough inner part, on both sides of the "fish-tails," and extending down the wing to where it makes the outward bend. This bend can be seen in dried specimens. In no instance have I found the lure below this. I was fortunate in finding about a dozen new leaves having the orifices still closed, and the process of secreting the clear liquid going on. I noted carefully the places of secretion and manner, as well as I could. The liquid is poured, or, apparently, oozes out of the *lower or hairy* part of the tubes, the *rough* part of the hoods, and where the translucent *dots* are on the petioles there are minute globules of clear liquid. The little globules are not easily broken up or separated, but when I would touch them with the point of a pin or a pine leaf, would roll down over the velvety part of the tube, as little globules of mercury do on glass. I tried holding the tubes horizontally, and touching them. In this position the drops would move about and not be broken up. I then rubbed my fingers lightly over the velvety portions of the tubes, thereby removing the fine bloom that covers this portion of the tubes. Now, when I would touch the little drops with my pin they would be broken up and wet the surface. The velvety part of the tubes are always dry and clean, in new and old leaves.

I did not find any of the white larvæ in the leaves having closed orifices, but there were many in the new leaves having the orifices open, and also in the old leaves of last year. Many of the old leaves were pretty well smeared with the lure, which must have been secreted this season, as it could not have remained upon them during the heavy rain and snow storms of last winter."

THE BIG TREES, BY J. G. LEMMON [Concluded from Oct. No.].—*Leviathan*, another prostrate monster, is about the same size, being 270 feet long, and 14 in diameter, but his body is not cut across or so broken as to reveal his rings.

The Father of the Forest.—Armed with the rule, derived as above stated, on the third day I approached the shattered trunk of this famous tree, fabled to have sprung from the earth soon after the deluge of Noah, over 4,000 years ago.

This huge patriarch has been shamefully overrated every way—his size given at 40 feet in diameter and his length at 450 feet. Exact measurement shows the diameter as only 18 feet at a distance of six feet from his roots, and his length about 300 feet. His trunk is broken or burned out in places, thus exposing cross sections where the rings of annual growth may be examined. With a hatchet and